

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : SEIKO INSTR INC

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(72)Inventor : HAYASHIZAKI SHINICHI

KIMURA REIKO

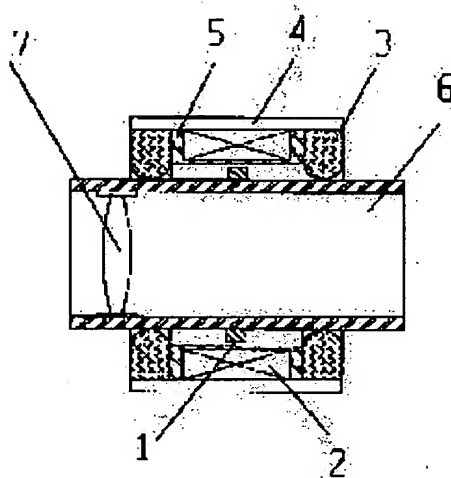
HIROYOSHI HIDETOSHI

(54) LINEAR ACTUATOR

(57)Abstract:

PROBLEM TO BE SOLVED: To eliminate the decline in the thrust of a device even if the device is small-size and hollow while the thicknesses of a magnet and a coil of a thrust generating section are made small by locating the ring-shaped permanent magnet, the cylindrical coil, a hollow shaft, and a cylindrical case concentrically and developing the thrust in the axis direction.

SOLUTION: A ring-shaped permanent magnet 1 is fixed to a hollow shaft 6 to constitute a movable body. A coil 2 is a hollow and cylindrical coil wound round a bobbin 5 and is located around the magnet 1 at a little space. A cylindrical case 4 made of soft magnetic material is located around the coil 2 and serves not only as the case but also as a back yoke which constitutes a magnetic circuit. The magnetic flux generated by the permanent magnet 1 which constitutes a movable body interlinks with the coil 2 and when current is caused to flow in the coil by an external power supply, the thrust appears in the coil 2 based on Fleming's left hand rule. However, the coil 2 is fixed, and so the thrust appears as reaction force in the permanent magnet 1 which is a movable body.



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